7 3 19

640.5 J82 v.10

THE

Journal of Home Economics

VOL. X JANUARY, 1918 No. 1

WHEAT NEEDS OF THE WORLD[1]

ALONZO TAYLOR

U. S. Food Administration and U. S. War Export Board

One of the most impressive results of the war, almost as impressive as the destruction of life, is the decrease of production. War carries with it infallibly diminution of the total producing forces of the nation at war. Production in industry, art, science, agriculture, in every direction of human endeavor, is reduced as the direct result of war. This is because war deflects energy and brains into nonproductive channels. Whenever brains and energy are deflected from productive into nonproductive channels, there is not only less work, but there is also greater liability to undergo loss; in other words, the actual diminution in production is greater through the operation of natural forces in war time, because the defensive powers of the State are reduced. That is the reason why crop failures, destruction by parasites, and all accidents to crops are more apt to occur in war time and to inflict greater results than otherwise. The defensive powers are reduced, and thus we find in connection with war not only a diminution in agriculture but also a more than customary degree of loss through extraneous forces. The loss in crops in Europe this year is greater than ever before. They have had severe winter killings, insufficient labor, not enough work animals to till the soil, the seed was not selected; all of these factors make for a lower yield. This winter killing extended to Germany and, in general, all over Europe, with the exception of Poland and Roumania.

It is clear that the wheat production of the allies will probably not be in excess of two-thirds of a normal crop, 400,000,000 bushels, leaving

[1]An address given in the Auditorium of the National Museum, Washington, August 28, 1917. Reprinted with the permission of the United States Food Administration.

our allies under the necessity of importing almost 600,000,000. To meet this situation we have a short wheat crop in the United States and in Canada. The United States and Canada will probably produce 800-000,000 bushels, from which we should have an exportable balance of possibly 200,000,000 bushels. The 400,000,000 bushels more of wheat that our allies used to secure from the rest of the world they will not secure. Argentine's last wheat crop was a relative failure and an embargo has been placed on export. There is a surplus in India of about 75,000,000 or 100,000,000 bushels; in Australia of 300,000,000. This is again out of the question from the standpoint of transportation. It is almost certain sinking to bring grain through the Suez Canal and there are not enough ships to transport it around Cape Horn. Our allies practically face the situation of importing 550,000,000 to 600,000,-000 bushels of wheat from North America if they are to get it, since if they can not obtain it they will have to subsist in part upon other cereals. We will have available this year, outside of the average normal consumption, only 200,000,000 bushels. This is the situation stated statistically, using rounded figures.

We shall have this year about 5,250,000,000 bushels of cereals, of which only 660,000,000 are wheat. Yet all that is talked about is *wheat*. What is there about *wheat* that makes it so wonderful and so mystical? Why does everyone's mind fix itself upon wheat? That is due to a number of reasons that it is necessary for everyone to understand.

There are three grains that will make bread, in the ordinary sense of the word, wheat, rye, and barley. When mixed with water they can be kneaded; under the influence of yeast they can be raised and maintain a continuity of structure that will mold; when baked they form a loaf which will keep and can be transported, and is therefore a most convenient form in which cereals may be used. These three grains alone will make bread as we know it.

As one follows each nation's developments upward in an economic sense, one notes that barley is first eaten; as the nation becomes more prosperous, barley is thrown to one side and rye is used; and finally rye is cast aside and wheat is the main subsistence. This has been the history of most Aryan peoples.

The United Kingdom depends almost entirely upon wheat for its bread. Italy consumes wheat bread, but bread is not so prominent as elsewhere. Rye is universally used in Russia, and barley is still em-

ployed as a bread grain. The reason why wheat supersedes rye and barley is because the bread is whiter, of a finer texture, and has unquestionably a better taste. The flour has somewhat better keeping qualities, and wheat flour lends itself to the making of pastries and fancy articles as no other flour does.

When a nation can no longer obtain wheat, it returns first to rye flour and then to barley. To-day the flour for war bread in Germany is 45 per cent barley, 55 per cent wheat and rye.

As to the superior nutritive value of wheat flour, this is entirely exaggerated. There are no differences when used in a mixed diet; one is just as good as another. Wheat is not superior to rye or barley; they are not superior to oats or rice or corn, if they are used in a mixed diet.

Now, if it be true that all of these cereals are of equal value in a mixed diet, why is it that we are appealing to the American people to send more than our customary amount of wheat to the allies? If they need a billion bushels of these cereals and they have raised approximately 400,000,000 bushels and can import from us only 200,000,000 bushels of wheat, why should they not take the other 400,000,000 bushels in other cereals and leave us our normal wheat ration? Why are we appealing to our people to cut down wheat and substitute supplementary cereals?

A certain amount of experimentation is possible with the diet of a normal healthy person. But the individual who is harassed and overworked is not in a situation to tolerate any marked deviation from the normal diet. In this situation are the allies in Europe to-day.

A question of trade also enters the problem. In America at least 55 per cent bake the bread in the household and only 45 per cent buy it from the baker. In Europe nearly everyone purchases bread from the baker. Domestic baking is economically wasteful. It is, therefore, absolutely necessary to adopt one or two positions; either the allies are to be taught a totally new use of cereals, not in the form of bread, or they must be given enough bread grains to build a loaf.

Anyone who travels through this country knows what a task it would be to get the people to live on rice. Go to the hotels in Washington and see what sort of a mess they make of corn bread. Then you will feel that it is not an easy experiment to teach the peoples of the allies how to make corn bread. If hotels here can not succeed, how can we expect the individual in Europe to succeed?

In England there is a large use of rice. In England, Scotland, and Ireland there is a heavy use of oatmeal. The people of the United Kingdom will take corn also. The same thing is true of Italy. Corn in the form of polenta is used in Italy and rice is also a frequent article of the diet. Wheat flour, although used for bread, is not entirely depended upon by the women of Italy.

The women of France are absolutely dependent upon wheat bread, which forms 52 per cent of the total food of the French people (the present ration is 18 ounces per day), a larger percentage than with any other nation of the world. They eat no rice, no corn; they know nothing of oatmeal and rye, and of barley have little knowledge. The problem rises with France. If we were to estimate the wheat the allies have raised, add to it our 200,000,000 bushels, and then send the balance of their need in other cereals, there would not be enough wheat flour to go around. You can not make good bread if you have as low an amount as 60 per cent of wheat flour with 40 per cent of other cereals. From a practical point of view, bakers fail to make bread under these circumstances. You can get along on 75 and 25. Unless we wish to impose upon the French women the burden of entirely recasting their households, it is up to us to get more wheat to the allies, and especially to France. I want, if possible, to fix in your minds the actual situation of the French woman in her home.

My words are not powerful enough to do even scanty justice to the most heroic figure in the modern world, and of ages past—the woman of France. Every French home has a man at the front, incapacitated by wounds or suffering from tuberculosis. Many houses have two of these and some three or four.

During the years from 1909 to 1913 there were rejected from the annual recruitings of French military service 25 per cent of the fresh recruits by reason of tuberculosis. These numbered during the five years about 900,000 men, who were rejected from the French Army for peace-time drill on account of being tubercular. Beginning about one and one-half years ago, France was compelled to send these men to the front, and the majority of them have succumbed to a recrudescence of tuberculosis. Of the healthy men who are not engaged in the military service in France, practically all are engaged either in transportation or in the manufacture of munitions, leaving the agriculture absolutely to the women. Not only this, but they have stepped into the place of work animals; you can go into any section of France to-day and see women

of magnificent, noble womanhood hitched to the plow and cultivating the soil. All of the agriculture rests upon their shoulders. The home, always an extremely efficient home, maintains a few old men, the wounded, and the tubercular. Uncomplaining, with high devotion, with an attitude that amounts almost to religious exaltation, the woman of France bears the burden.

A few days ago, in describing the French prisoners in German prison camps, I pointed out, what I had seen in my own personal observation, that beginning with the first months of the war the French women sent parcels of food to their men amounting to about 60 per cent of their total food. There was no organization; the French woman as a matter of course sent this food parcel to her husband, father, son, brother, or sweetheart in the German prison-of-war camps. When food became scarcer, the parcels became smaller and the French prisoners were compelled to subsist more largely upon the German food which is insufficient to maintain normal nutrition. To our positive knowledge this necessity has become a serious menace because so many of the men who were in the prison camps were tubercular. Of course, insufficient diet would only accelerate the ravages of the disease and so arrangements are under way to supplement this diet by food from the United States. But wherever we went we did not hear any complaint from France; there has never been any complaint. There never will be any complaint. They do not complain. They only go without, and there would never be any knowledge on our part if it were not for their official representatives, who, feeling themselves so close to us that we seem to be almost one with them, can mention this state of affairs simply as they are; but complain, no! We will never hear that; it is not in their nature.

Now, conditions being as they are, does it lie within the heart of the American people to preserve and hold to every convenience of our life at the expense of adding an additional burden to the womanhood of France? This is the exact question that is involved in our substitution of other cereals in place of wheat.

If the people of the North will consume cereals as they have always done in the South (and they fought a very good battle for five years, 50 years ago, on their mixed diet), we can send an additional 150,000,000 bushels of wheat to the allies, principally to France. In the North we consume about 12 ounces of cereal per day, 10 in the form of wheat flour and 2 of rye, rice, barley, oats, and corn. In the South they consume about 7 ounces of wheat flour and 6 ounces of other cereals. If we

can induce the people of the North to cut down the consumption of wheat to anything approaching that of the South, we can realize 150,000,000 bushels of wheat. This will enable the allies to mix other cereals with the wheat in such proportions that they can make them hold together as bread. On a three-quarter basis of wheat and one-quarter of other cereals, they will be able to make perfectly good bread, not as good as whole wheat bread, but then *c'est la guerre*. If the amount of wheat falls very appreciably below the average figure, it will not be possible to give them freedom in the making of bread.

This still does not put us in their class, because we have more freedom in the choice of supplementary articles of diet. We can accomplish saving of wheat by not having bread on certain days or for certain meals. As a matter of fact, all we ask in the substitution of cereals can be reached with one meal in the day a wheatless meal. If one meal per day sees other cereals used to the exclusion of wheat, this problem is solved. If it is tried for a short time, it is found to be an exceedingly small thing. It amounts to a slight reduction in what is, at the best, a convenience; but it means an enormous increment and assistance to the womanhood of France.

Now, this is in simple terms what we need and what will have to be done if we are to do our part, what is up to us to do to help bring the war to a successful conclusion. Previous wars have always been discussed largely in terms of units of men and not in terms of units of animals or units of food. That is why the German peasant protests against sending his swine except at a very high price, because he has not been accustomed to so doing; he has always expected to send his children, but not his live stock.

Do not be confused by peace talk and other rumors. Those of us who have been in Germany during the war know that peace at this time is not the view of the ruling classes of Germany, who stand for annexation east and west. Although there are many Germans who do not think thusly, they can make no protest. Germany is not going to starve; she can not be starved out. There is not going to be a revolution in Germany, not so long as there is war. This war will end in no such way.

The women of France must be enabled to hold up the morale of the French soldier until next spring. The morale of the home decides the morale of the soldier in the fighting line. It does no good to feed the soldier if you starve his family. It is, therefore, the first duty of the Americans to make the pressure back of the line at the home, and above

all else on the women, as light as possible. It can not be made small, but we can reduce it greatly. We can do this by giving them the greatest possible freedom in their food supply, and of this wheat is the chief factor. Others are sugar and fat.

Another thing, we must be able to take over part of the French line next spring, because there is a limit even to the strength of the fighting forces of France. Good judges do not feel that France will be able to maintain her present offensive throughout another calendar year, and it is up to the United States to take our place there. We must make the path of the women of France as easy as possible during the next eight months and at the end of that time take the place of the Frenchmen in the line for miles and miles. If we expect to win this war and expect to stand in history as we should stand, we will have to do these two things. It is somewhat of an invidious comparison to make, but it is undoubtedly true that the morale of an entire nation is represented by the morale of the women. It is also true that the morale of the French woman is the highest in the world, because she has suffered most. The women of England and Italy will in another year be in the same position as in France, if the war continues long.

Last September I was visiting a prison-of-war hospital in England. It contained a thousand wounded Germans, officers and privates. Those who are familiar with prison-of-war camps and hospitals know that for about 48 hours after a soldier is wounded he will leak information if approached in his own language. There were in this hospital nearly 200 officers, who had just been received at the hospital from one of the fierce artillery battles. In speaking to these officers, and to one in particular, I noticed that the only thing they were afraid of was that they should be accused of cowardice. This officer, with others and about 100 men, had been in a front line position underground. While the bombardment was going on they were in cellars. When the bombardment ceased, they knew that the barrage would be the next, and the Frenchmen would be advancing upon their own curtain. Before the Germans had time to raise the machine guns in place, a small party of Frenchmen had advanced far enough to throw a half dozen hand grenades into their cellar, and there was nothing for them to do but surrender. Of course, if they had had time to get their machine guns in position, they would have been able to repulse the French attacking party. The fact remains, said the officer, that the French soldier was the better fighter in connection with artillery fire. I remarked

that possibly he meant better than the English "Tommy." No, he said the French soldier was the best fighter in the world, barring none. He said that the Frenchmen have something no other soldier has.

As I left the hospital I fell to wondering what he could have meant and what should be drawn from what he had said. What is it that the Frenchman has that no other soldier has? One thing, there is a wonderful spirit of comradeship between officers and men that does not exist anywhere in the world except in France. We trust that our new National Army may be able to attain the same comradeship. But it is not that. One must go to Gard de Nord, which is now purely a military station. The women go with their men to the trains. There is no weeping; every eye is dry. Mothers, sisters, daughters, sweethearts, and wives put their men on the train almost, if one observes them casually, as nonchalant as if they were going to work, and they are. The train pulls out slowly and the women stand on the platform watching. There are no tears then. The men stand at the windows and on the outside platforms, looking back and straining their eyes for the last look. Then after the train has gone, the women return to their homes, their faces lighted with what is almost a holy and religious exaltation. This is what the soldier of France has that no other soldier in the world has—the woman of France.

Let us hope that our women will be able to catch the same spirit. If our women can cultivate the spirit of France, the war will be won, and its suffering will not be in vain. The spirit of France means the doing each day of the simple duties, the duties that make for efficiency and that make for the home, for the freedom of which our Nation has embarked upon this war. They, the women of France, are perfectly simple. From them has come the spirit that has enabled France to stand through three years of warfare, such as no nation probably at any time, ancient or modern, has ever withstood. The war will never rage within our borders, it must always be within the borders of France; and for that reason all consideration must be given to them, who have the war with them, physically as well as mentally, every moment day and night.

SOME RECENT MAGAZINE ARTICLES ON THE STANDARD OF LIVING

LORINDA PERRY

Associate in Household Science, University of Illinois

(Concluded)

The need of saving becomes urgent because of the mounting cost of living which has not been cancelled by corresponding increases in income and because of great national needs. Not only individual needs but important national demands impose upon the individual the responsibility of saving. Two articles on Thrift, by Professors Edward T. Devine and Robert Graham Taylor, which are well worth reading, appear in *The Survey* of the last year. Before the war, more and more, emphasis was being shifted from the necessity of individual saving to the necessity for maintaining an adequate standard of living, especially for working people. It was advocated that individual saving be replaced or at least supplemented by collective or coöperative saving as a more efficient form. The present emergency has, however, peculiarly placed the responsibility for saving back upon the individual, without lessening the necessity for coöperative forms of saving or minimizing the need for maintaining the standard of living. Professor Devine[7] who has laid emphasis upon the maintenance of a standard of living by group saving thinks the old teaching in a modified form must again be vigorously preached. The need for individual saving arises because of the actual shortage of the means of subsistence due to lowered production and to the diversion of capital and labor from productive peace enterprises to important war activities. This need will continue after the war because of the destruction of enormous amounts of capital which must be replaced. The necessity for thrift is thus immediate, great, and continuous. Professor Devine considers the nature of Thrift and Saving not deprivation, but more rational expenditure, not solely or even principally doing without things. For at any time spending involves doing without things in order to obtain other things. "Fundamentally they (saving and thrift) mean a wise and disciplined judgment as to expenditures."[8] They demand character and a scale of values. The careful saver spends every dollar on a plan carefully worked out in advance, giving due considera-

[7] Devine, Edward T.: Thrift and Saving. *Survey*, vol. 38, pp. 400–403.
[8] Ibid., p. 400.

tion to future as well as present needs, substituting deliberate choice for impulsive expenditures.

The time to begin to save is now. Those who should save are those who can afford to save, whose means of subsistence are in excess of needs —in other words, practically all of us. In saving, the following principles will be useful as a guide in choosing: "those forms of saving should be preferred which, if adopted generally, will tend to make prices lower, supplies more abundant, and release goods more freely for the vital national needs."[9] All forms of expenditure must be reconsidered from the point of view of rational expenditure with the purpose in view of purchasing "those things which, other things being equal, most economically supply elementary human needs, and for the rest those things which satisfy higher rather than lower, essential rather than passing, social rather than selfishly personal demands."[9]

Professor Taylor in a paper,[10] given at the hundred year anniversary of the opening of the first American Savings Bank in Philadelphia, discusses social forms of thrift. Thrift is not only an individual habit and virtue, it is also social. Thrift of the individual or of society may degenerate into "thriftless thrift," overlooking the future for immediate wants (or vice versa), obtaining the welfare of the individual at the expense of the group. The advantage of group thrift arises because group thrift in many instances is more efficient and because of the necessity of protecting society from the "thriftless thrift" of individuals who may exploit themselves or others. Social thrift thus takes the form of laws such as those regulating the hours and conditions of employment of women and children, providing for compulsory schooling, mothers' pensions, minimum wage laws, sanitary inspection of tenement houses and shops, pure food and drug acts, laws establishing postal savings banks, and the federal Children's Bureau. It also takes the form of voluntary associations such as the American Association for the Prevention of Infant Mortality, the American Labor Legislation Association, and others.

Market conditions have received much of the blame for the high cost of living, especially for the increased cost of food. The last century has been characterized by rapid increase in urban population and in the territorial division and specialization of labor. The distance and the intermediaries between the producer and the consumer have increased greatly. The result has been maladjustment and consequent waste in the

[9] Ibid., p. 402.

[10] Taylor, Robert Graham: The Social Aspect of Thrift. *Survey*, v. 37, pp. 83–4

distribution especially of food, which has added to its cost. The difference between the price which the producers of many goods, especially food, receive and the price which the consumer pays, gives rise to the belief that the middleman exacts a tribute from the price of goods for which he returns no adequate service. Some think the remedy is to bring about a more direct purchase of goods from the producer by the consumer.

Much of this belief may be traced to failure to understand the legitimate functions of the middleman. A clear conception of the market and of market organization is of value to the consumer as well as to the retailer or producer. Prof. L. D. H. Weld,[11] in analyzing what are usually called the functions of the middleman and which he prefers to call "marketing functions," shows the processes which must be performed in the present complex society in getting goods into the hands of the consumer from the producer. He classifies the services to be performed in the marketing processes as (1) assembling, (2) storing, (3) assuming risk, (4) financing, (5) rearranging, (6) selling, (7) transporting.

The need for assembling—the seeking out of sources of supply, the making of business connections by which commodities may be purchased, the study of market conditions—arises with the development of territorial division of labor and specialization. It is obvious that it is easier and more efficient for one middleman to bring the many producers and many retailers together than for each individual retailer to make his connections directly with innumerable producers.

Storing is the holding of stocks of goods at convenient points, at a convenient time. It requires expense for wholesale or storage fees, store space, interest on capital tied up in goods. Both the producer and the retailer may and do store goods, but the tendency is for both to shift this responsibility to the middleman. This, for instance, accounts for the increase in the number of small jobbing houses in small jobbing centers.

The risk assumed is of various kinds; risk of fluctuations in price which varies with the kind of goods handled, risk of destruction by fire, which is shifted usually to insurance companies, risk of deterioration in quality, as with fresh meats and fruits, which make necessary special facilities such as refrigerators, risk of changes in style, and financial risk involved in the collection of accounts.

The function of financing usually takes the form of granting credit,

[11] Weld, L. D. H.: Marketing Functions and Mercantile Organization. *Amer. Econ. Rev.*, v. 7, pp. 306–318.

and occurs all along the line—the retailer to the consumer, the jobber to the retailer, the manufacturer to the jobber. It is not at all unusual for the jobber to finance both the manufacturer and the retailer. This function again calls for considerable amount of capital.

Rearrangement consists of the sorting, grading, breaking up of large quantities into smaller units, packing, etc. Again this takes place all along the line from producer to consumer.

Selling is the most important and costly of the functions performed by the middleman. It consists both in creating demand for goods and in getting the goods into the hands of the purchaser. It may be done through personal salesmen, or advertising, or both.

Transportation of goods is largely taken over by other agencies such as the railroad. Yet the jobber and the retailer still perform part of this function with their delivery systems.

Greater functional specialization occurs in the marketing of farm products than in the marketing of manufactured goods—that is, on the whole, farm products pass through the hands of a greater number of middlemen. The fact that the producing unit is small on the average, and that farm products are usually unstandardized, perishable, seasonal, maturing at different times in different parts of the country, and sold through a larger number of retail establishments, accounts for the great need of specialization in their marketing.

The difficulties involved in the direct marketing of farm products and the real services performed by the middleman are illustrated in an article on "Marketing Farm Produce by Parcel Post and Express."[12] The advent of the parcel post was haled as one important means of reducing the cost of living by facilitating direct purchase from producer to consumer and so eliminating the profits of the middleman. To determine the value of direct purchase, the department of agricultural economics of the University of Wisconsin obtained information from over 200 farmers in the state who had some time before advertised their willingness to sell directly to the consumer, and from consumers who had used this method of purchase. The answers showed general dissatisfaction with the system. From an analysis of these answers the writers have formulated certain conclusions as to the extent to which the direct sale of farm produce can reduce the cost of living under present conditions.

[12] Hubbard, B. H. and Hobson, Asher: Marketing Farm Produce by Parcel Post and Express. *Amer. Econ. Rev.*, v. 6, pp. 589–608.

The problems which the farmer has to face are concerned with obtaining customers, method of payments, cost of packing and transportation, and nature and quality of produce. The customer is concerned mostly with the quality of the product, and the convenience and cost of the service.

The producer must have easy access to the station, and as a rule should not sell to a market of more than 200 miles radius, because of the cost of transportation. The method of getting into communication with customers varies. Most success has been obtained by personal solicitation, although other plans such as correspondence, advertising, use of post-office lists, and industrial departments of express companies, may prove helpful. The fact that the farmer usually does not have much produce limits the use of advertising. Credit relations of some sort should be established between the producer and the consumer. Usually long distance marketing is done on a cash basis, so if no credit relations are established, the customer will have either to send the money with his order or to have the goods sent C. O. D. Both of these the customer is often unwilling to do as neither allows of inspecting goods before acceptance. The cost of transportation varies with the distance, weight, and kind of produce, being more expensive proportionately on small than on large packages. The cost of packing also varies with the size and weight of the article and tends to be much greater proportionately for small than for large articles. The produce must thus have high value as compared with bulk so as to stand the cost of transportation and of adequate packing. The supply must be dependable, more or less constant and not seasonal. (Poultry and dairy products best meet these requirements.) The commodities must be of good quality or at least of constant quality. The farmer's failure to appreciate this necessity is a great drawback. Goods should be graded or standardized and carefully packed so that the consumer can have some assurance as to the quality of the product he is buying. For many products the customer wants small orders quickly and often. The direct method of sale is usually slow. The use of the telephone is not always convenient, and orders are sent by mail, necessitating delay of several days. The cost of transporation and of packing militates against small orders. These costs, the authors suggest, can be minimized by consumers' "buying clubs"—which, on the other hand, add new burdens of administration for the consumer. Evidently, only a specialized producer, with inclination and ability to cater to retail trade, who will assume the responsibilities of the retailer and acquire business customs and methods can succeed in selling directly to the customer.

On the whole, the authors conclude "that the parcel post in its present stage of development has not fulfilled the expectations of the farmer as a selling agent, however useful it may be to him along other lines"; that it brings about no reduction in the cost of living for the consumer, on the other hand, it may even cause a slight increase, although this slight increase may be offset by the freshness of the article.

An account[13] of the organization, purpose, and work of the bureau of marketing, established in 1913 under the South Carolina Department of Agriculture, Commerce, and Industries, is given in the monthly Review of the U. S. Bureau of Labor Statistics. The purpose of the bureau is to become a clearing house for information between buyers and sellers of agricultural commodities, to lessen the difficulties of trade in farm products by finding a market for goods which might otherwise be a total loss. The Bureau keeps two lists, of commodities offered for sale, and of commodities wanted. The first list contains the name and address of those offering commodities, the kind and amount offered, and the price asked. The second list contains the name and address of people wishing commodities, the kind and amount desired, and the price. These lists are corrected to date and published each week in state newspapers. The success of the plan depends very largely upon the degree of coöperation between the newspapers and the producers. A marketing bulletin giving this information is also published weekly and sent to about two hundred merchants and those who take commodities in large quantities. People may also be informed of the wants and offerings of the market by writing in to the bureau and learning the names and addresses of those who desire or are selling any particular commodities. Those having goods to sell and those wishing to buy them, can thus easily get into communication with each other. During the three and one-half years that the bureau had been in operation, only two complaints had been received and numerous expressions of approval.

Several results have been attributed to the activities of the bureau—a greater diversification of crops, a more favorable attitude on the part of the farmer towards taxation, encouragement of the boys' and girls' canning clubs in efforts to improve farm conditions, and, of course, the establishing of a market for farm products which otherwise would be wasted. The bureau, after all, merely solves the problem of obtaining customers. Whether the system inaugurated actually results in lower-

[13] Herndon, John G., Jr.: South Carolina's Bureau of Marketing. *Monthly Review*, v. 6, pp. 58–63.

ing the cost of living is another question, and one which the report does not answer. The general conclusion must be that the elimination of the middleman under the present organization of our markets will not necessarily result in decreasing the cost of living. No doubt much can be accomplished by eliminating inefficient and dishonest and surplus middlemen.

We have been uncritical of the statement that the normal American standard of living demands that the husband should be the sole support of his family or at least that his earnings should not be supplemented by income derived from the employment, outside the home, of the wife and younger children. The federal Keating-Owen Bill, regulating the hours and conditions of the employment of children engaged in mines and quarries and in the manufacture of goods entering into interstate commerce, shows that we are attempting to attain our standard in regard to the employment of children. This law went into effect September 1. Whether our assumption is true that the American standard of living does not permit of the gainful employment of married women outside the home, is distinctly doubtful, especially in view of the statistics of women at work, based upon the 1910 census, which will soon be available.

Dr. Rubinow, in his first article on real wages, ascribed the apparent increase in comforts enjoyed by the workingman's family to the increased employment of women in industry. The employment of women in industry since 1870 has been characterized by great increase in the number employed and by a change in the character of the work which women have entered. Since 1870 the number of women at work has increased at a rate greater than the increase in the total number of women, and the increase in the number of men employed in industry. The proportion of the total number of women employed in the classes of occupations known as domestic and personal pursuits and in agricultural pursuits has decreased, while the proportion employed in professional pursuits, in trade and transportation, and in manufacturing and mechanical pursuits has increased, in the latter, however, not so rapidly as in the other two. Advance sheets of the special report upon women at work, based upon the 1910 census, bring out another tendency. The proportion of all married women who are at work, and the proportion which married women constitute of the total number of women employed, has steadily increased, the greatest increase occurring during the decade 1900–1910. The report shows that in 1890, 4.6 per cent, in 1900, 5.6 per cent, and in 1910, 10.7 per cent of all married women sixteen

years of age and over were gainfully employed; that in 1890, 14.3 per cent, in 1900, 15.9 per cent, and in 1910, 25.4 per cent of all women sixteen years of age and over employed in industry were married women. The increase in the employment of married women in the decade 1900 to 1910 is remarkable and in most instances probably due to necessity. During this same period the total number of women employed almost doubled. Dr. Rubinow's surmise as to the cause of the improvements in comforts of the working class is verified by these data. Very evidently the forces at work in society which are tending to take women out of the home into industry, are carrying married women out also—even the married woman with a family.

Some idea of the changes which may take place in the position of women in the United States as a result of our entrance into the war may be gained from a knowledge of such changes as have accompanied the necessary shifting in industry in England.[14] Over half a million women entered the ranks of English working women between the outbreak of the war and the spring of 1916. The January, 1917, number of the *British Labor Gazette* estimates that in October, 1916, the net increase in the number of women engaged in industry outside the home since the war began is in round numbers 850,000.[15] Certain tendencies shown before the war have been intensified during the war. The decline in the proportion of all women at work engaged in domestic service and in agriculture has continued, while an enormous increase has occurred in the number and proportion of women employed in the "non-industrial" occupations of banking and finance, of transport, and in government employ. The war has thus opened up to women many occupations which prejudice, tradition, and custom have closed to her. The article discusses such questions as the manner and extent to which women are replacing men in industry, the effect of newer, heavier work upon the health of women workers, the wages received by women as compared with those they received before the war, and those received by men. Another problem to be considered is the very important one of the employment of women after the war. This is, of course, now largely a matter of speculation. We can be sure of one thing, and that is that conditions will be different after the war. Many forces will operate to keep women in

[14] Women in Industry in Great Britain during the War, based on a study carried on under the direction of the British Association for the Advancement of Science. *Monthly Review of the U. S. Bureau of Labor Statistics*, v. 4, pp. 335–346. (Only certain points of this article can be referred to here, but it is well worth reading.)

[15] *Monthly Review*, v. 4, p. 347.

industry in increasing numbers. All classes of women have gone into industry, but the majority are working women or the wives of working men. Many have gone to work as a patriotic duty, but many more have been actuated by the need of adding to the family income. Some will not remain and yet for large numbers the necessity or desire to earn money will continue. Then, too, the replacement of men by women has in many instances been accomplished by the reorganization of the industry, or by the introduction of new machines which the employer will refuse to scrap. These changes have been based upon the capacity of woman rather than of man labor. The demand for labor will undoubtedly be great, and not necessarily of the kind in existence before the war. The opportunities and inducements for the employment of women outside the home will be many. Will these forces operate to increase greatly the number of married women in industry? If so what effect will it have upon our standard of living—upon the organization of the household?

We may conclude that one important measure of the value and success of the teachings of home economics will be found as they affect the standard of living. Improvement in standards may be brought about (1) by increase in the purchasing power of money due to better production or to increased income or to both, (2) by better consumption of goods. We have, on the whole, relied on the first method for improvements in our standard. Because of the fact that the prices of goods which constitute the bulk of expenditures of the ordinary family are increasing more rapidly than the incomes of such families, because of the enormous waste involved in warfare, the necessity for wiser consumption is upon us if we are to maintain an adequate standard of living. This involves the application of scientific and business principles to the home, the better organization of the household, which will allow considerable labor to be used more productively, and the setting up of better, truer values in the home.

CORRECTION

Footnote 4 in the first part of this article in the December JOURNAL should read:

[4] Jones, F. W. Real Wages in Recent Years. *Amer. Econ. Rev.*, v. 7, pp. 319–330.

FAT ABSORPTION IN FRYING DOUGHNUTS

MARY C. McKEE

From the Laboratory of Food Chemistry, Home Economics, University of Chicago[1]

In carrying out investigations as to the chemical changes which take place in deep-fat frying some preliminary work has been done to ascertain the variations in absorption of fat in frying doughnuts made by different recipes. An account of this work is given in this paper.

Doughnuts made by a recipe which has given good results in the cooking laboratories of the University were used as a basis for the work.

MATERIALS	GRAMS	OR APPROXIMATELY
Sugar	300	1½ cups
Egg	84	2 cups
Crisco	34	3 tablespoons
Milk	340	1½ cups
Baking powder	25	6 teaspoons
Flour	681 + 28 used in rolling out dough	6 cups

This dough contained 5 per cent of fat or ether-soluble substance as shown by analysis. By making allowance for the average increase in weight in frying, the fat *in* the dough of the standard fried doughnut as opposed to the fat *taken up* in frying may be computed to be approximately 4 per cent of its cooked weight.

The doughnuts were rolled out in an embroidery hoop 18 cm. in diameter and 1 cm. high, cut by a medium-sized cutter—outer diameter 6.5 cm., diameter of hole 2.1 cm.—and fried in deep cottonseed oil for five minutes at a temperature of 200°C. After they were lifted from the fat, and allowed to drain a few seconds, they were wrapped in paper napkins until cool enough to handle easily. Made in this way the doughnuts were always light, of good flavor, and not unusually greasy. They might well be classed as a good average homemade product. Cottonseed oil at 200°C. was chosen as the frying medium, after preliminary experiment with other fats and temperatures, both because of its convenience and of the fact that it gave consistently pleasing products.

The raw doughnuts were weighed just before and after frying. There was always a gain, varying between 19 and 24 per cent of the raw weight, thus showing that the loss in water was more than balanced by the gain in fat.

[1] This work was done under the direction of Dr. Katharine Blunt.

To obtain a fair sample of the fried doughnuts for determination of the fat it was found best to allow them to dry in the air for two days, noting the loss of weight which averaged about 1.3 per cent of the original fresh weight. Two of them were then ground in a meat grinder, mixed thoroughly, and a sample at once removed to a weighing bottle. The figures for the per cent of fat as given below are calculated on the basis of the weight of the freshly fried doughnut.

Some of the fat determinations were made by the usual method, drying first to constant weight in a vacuum desiccator, and then extracting with anhydrous ether for eight to ten hours in an extraction apparatus. For other determinations the Polenski[2] method, slightly modified, was used, since it had been found by previous workers that the direct extraction methods were not always satisfactory for the determination of fat in bread stuffs. About 4 grams of the fresh, air dried sample were hydrolyzed by boiling for 30 minutes in 25 cc. of $\frac{N}{2}$ hydrochloric acid, the acid neutralized, and the well-cooled mixture shaken with alcohol, ether, and petroleum ether. The ether layer was allowed to separate, then half of it was blown into a pipette by an aspirator and filtered through cotton into a weighed flask, the ether distilled off, and the residue dried and weighed. It was found that the results obtained by the two methods agreed more closely than duplicates for different frying experiments.

The results of the experiments are given in the folowing table:

RECIPE	NUMBER OF DOUGHNUTS FRIED	WEIGHT OF RAW DOUGHNUTS	WEIGHT OF COOKED DOUGHNUTS	INCREASE IN WEIGHT	FAT IN COOKED DOUGHNUTS	
		grams	*grams*	*per cent*	*per cent*	*Average*
Standard	4	137.5	163.8	19.1	33.8 33.7 36.0	34.7
Standard	3	108.7	140.0	28.9	35.2	
Egg doubled	4	139.5	168.0	20.5	—	—
Egg quadrupled Flour increased $\frac{1}{4}$	4	131.0	142.0	8.4	24.5 24.6	24.6
Fat doubled	4	136.5	184.5	35.2	43.9 43.0	43.4
Fat quadrupled	4	135.2	187.5	38.7	48.0 47.6	47.8
Sugar doubled	4	135.8	192.8	42.0	43.2 45.2	44.2
Sugar quadrupled	1	The doughnut disintegrated absorbing large quantities of fat.				

[2] E. Polenski. Arbeiten aus dem Kaiserlichen Gesundheitsamte, 33 (1910), pp. 563–579.

These results show, first of all, that the per cent of fat in all the doughnuts was remarkably high—an average of 34.7 per cent for the standard recipe and 38.9 per cent for all. Other experiments, carried out at this time but not published, in which temperature, size of doughnuts, and kind of fat used in frying were varied, confirm this high value for the fat of homemade doughnuts, since from over 30 determinations an average fat content of 33 per cent of the cooked weight was found. Computed for a single standard doughnut of 44 grams, this gives nearly 15 grams of fat or almost $1\frac{1}{2}$ tablespoonfuls.

This amount of the fat is much higher than that given in Bulletin 28[3]—21.0 per cent—and than that found by analysis of doughnuts purchased in two different stores in Chicago—21.0 per cent and 25.6 per cent. The commercial doughnuts tasted less sweet than ours and were doubtless made from plainer recipes, so that their smaller fat content might be expected from the rest of our work.

Varying the recipe makes a marked difference in the fat taken up by frying. When the egg was increased fourfold the ether-soluble content of the dough itself was of course slightly increased, though the increase was offset to some extent by the addition of 200 more grams of flour which were needed to make the dough stiff enough for rolling. Yet, as shown in the table, there was a marked decrease in the total fat of the fried doughnut. Instead of the 34.7 per cent for the standard recipe, this egg-rich doughnut contained only 24.6 per cent. The doughnut made by this recipe was yellow in color, light, of good flavor, but showed a tendency to form tunnels.

Doubling the fat in the recipe and then increasing it fourfold increased the absorption of fat greatly in excess of the added fat in the dough. Even the greater change in the recipe merely changed the fat *in* the fried doughnut, the fat of the dough itself, from 4.0 to 6.7 per cent, yet the total fat went up to 47.5 per cent. The doughnuts so made were all light and fluffy, but were quite greasy.

Upon doubling the sugar in the recipe the fat content of the cooked doughnut rose to 44.2 per cent. The doughnuts were crisp, brown, and greasy. When the sugar was increased fourfold, the doughnuts disintegrated in the fat and the crumb absorbed great quantities of it.

The experiments thus show that doughnuts may take up a high percentage of fat in frying, the amount of fat absorbed varying with variations in the recipe. It is increased by increasing the fat and the sugar in the dough and decreased by increasing the egg and the flour.

[3] The Chemical Composition of American Food Materials. U. S. Dept. Agr., Office Expt. Stas. Bul. 28.

THE NEW FOOD CARD

The United States food administration is to issue a new card giving additional directions to those on the first home card. Everyone is asked to maintain rigidly a minimum of at least:[1]

ONE WHEATLESS day each week and one WHEATLESS MEAL each day; the wheatless day to be Wednesday. By wheatless we mean to eat no wheat products.

ONE MEATLESS day each week which shall be Tuesday and one meatless meal each day. By meatless we mean to eat no red meat—beef, pork, mutton, veal, lamb; no preserved meat—beef, bacon, ham or lard.

ONE PORKLESS day each week in addition to Tuesday, which shall be Saturday. By porkless we mean no fresh or salted pork, bacon, ham or lard.

SUGAR—You can materially reduce sugar by reducing the use of candy and sweet drinks. We will make every endeavor to see that the country is provided with a supply of household sugar on the basis of 3 pounds of sugar for each person per month. Do not consume more.

As a nation we eat and waste 80 per cent more protein than we require to maintain health. Therefore, we can reduce the amount of meat we eat without harm.

We eat and waste 140 per cent more fat than is necessary.

Of the carbohydrates we can just as well consume corn, oats, and the other cereals as wheat and we have abundant supplies of potatoes and vegetables.

Do not limit your supplies of milk and table butter; but consume it all. Do not waste any.

You can reduce the consumption of fats by reducing pastry and fried foods.

Remember the gospel of the clean plate, the serving of small portions, the purchase of less supplies.

The card warns against hoarding:

Any person in the United States who buys more foodstuffs than he customarily keeps at home in peace times is defeating the Food Administration in its purpose to secure a just distribution of food and in its great endeavors to reduce prices. The hoarding of food in households is not only unnecessary, as the Government is protecting the food supply of our people, but it is selfish and is a cause of high prices.

Such actions multiplied by thousands increase the demands upon our railways for cars, and already, because of our military demands, it is with extreme difficulty that we can now move the vitally necessary food to markets.

The "insidious propaganda" against conservation and increased pro-

[1] This is only the first draft, not the final form of the card.

duction is called "direct assistance" to those against whom we are fighting.

The reverse side of the card carries the following message:

To Members of the United States Food Administration:

The food situation in Europe is far graver than when the preliminary survey of the food supply of the world for this year was made. Beyond the demands of the Allies there is a call upon us by the friendly neutrals for food supplies, and, if we can not at least in part respond to these neutral calls, starvation on an unparalleled scale must ensue.

Food has now taken a dominant position in the war, and we must ask the American people to sacrifice far more than was at first thought necessary. We have exported the whole of the surplus of the wheat from this harvest after reserving to ourselves an amount sufficient for our normal consumption of seed and flour until the next harvest, and therefore the amount of wheat flour that the United States can contribute to mix with the war bread of the Allies during this winter will be exactly the amount which our people have saved each month on their behalf.

The Allies today ask for 25 per cent more meat and fats (pork, dairy products and vegetable oils) than our monthly production permits us to send them unless we can consume less. Due to the shortage in shipping, our available sugar supplies must be less than normal from the present time forward.

If we are to reduce the consumption of the few products which we should export abroad, we shall need to eat a larger proportion of many different foodstuffs which we can not export and which we have at home. For this reason we MUST NOT waste ANY food stuffs.

We must not overlook the fact that Russia collapsed not because of the Germans on her borders but largely because of the failure to organize and feed her own citizens, and, if we are to emerge victorious from this war, we can not risk the collapse of another of the Allies from this same cause. There is no waste of food among any of the Allies—there is the most drastic reduction in their consumption; there is actual privation among their women and children; there is starvation in Belgium.

It is a matter for the conscientious consideration of every individual that he or she should eat only that which is necessary to maintain bodily health and strength and unselfishly to select those foodstuffs the use of which relieves international necessities. In this winter of 1918 lies the period when there will be tested in this great free country of ours the question as to whether or not our people are capable of voluntary individual self-sacrifice to save the world.

HERBERT HOOVER,
United States Food Administrator.

FOR THE HOMEMAKER

VEGETABLE OILS AND THEIR USE IN COOKING

KATHARINE BLUNT

University of Chicago

The Food Administration asks us to be careful in the use of all fats but particularly animal fats and particularly butter in cooking. From the bakers, fat economies have been required. Heretofore they have used in bread from 2 to 10 pounds of shortening per barrel of flour or an average of 6 pounds. Now they may use only 2 pounds per barrel and this 2 pounds must be either all vegetable fat or a compound containing not more than 15 per cent animal fat. Of the housekeeper requests are made, not requirements. It therefore behooves us to bring together our knowledge of the numerous fats on the market, especially the vegetable fats—what they are, how they are prepared, and how vegetable fats may be substituted for butter and other animal fats.

Oleomargarine is sometimes made wholly of animal fat but more often of a mixture of animal and vegetable. Its components vary somewhat but usually the chief fats contained in it are the softer part of beef fat called oleo oil, lard, cottonseed, or peanut oil, and in the more expensive grades, a little butter. The mixture is churned up with milk to give as nearly as possible the texture and taste of butter. It is manufactured under government supervision and the process is exhibited to the public with particular pride in at least one of the big Chicago concerns. Oleomargarine is popularly called either oleo or butterine but the longer term is the legal one for any table fat made as a substitute for butter. Nut margarin is usually a mixture of coconut oil (a soft solid in this northern country), and cottonseed or peanut oil, whichever happens to be the cheaper, churned with milk.

The vegetable oils on the market are constantly increasing. In many sections of the country the chief ones, besides olive, are now cottonseed oil and corn oil, sold under trade names as Wesson oil and Mazola respectively, and usually at a price much lower than olive oil and about the same as lard. Peanut oil, too, is available in some places and even

sesame and soy-bean oil. Much vegetable oil is now converted into a solid fat by a process the development of which makes one of the most interesting chapters of the application of chemical research to manufacturing. Any one of the oils, cottonseed, corn, peanut, is mixed with a "catalyzer," usually powdered nickel, and hydrogen is passed in under carefully controlled conditions of heating and pressure. Part of these liquid fats react with the hydrogen to form the solids, thus yielding a fat of any desired degree of hardness. After the nickel is filtered out and the fat cooled, it is usually about the consistency of lard, but without the characteristic taste or odor. Several firms now put out these hydrogenated oils under various trade names—crisco, crusto, etc. The older lard substitutes, snowdrift, cottolene, and the like, are mixtures of animal and vegetable products, chiefly beef stearin and cottonseed oil.

The fats and oils are all essentially alike in their composition since they all consist of mixtures of solid and liquid glycerides, so named from the glycerine which may be made from them and which is of especial interest just now because it is necessary in making high explosives.

The characteristic flavors and odors of the different fats are due not to the glycerides, which are tasteless and odorless, but to unknown substances present in minute amounts. The more thoroughly an oil is refined the less of these substances is left in it. Cottonseed oil, for instance, when first expressed from the seeds is dark reddish brown in color and has a sharp, disagreeable taste and odor, but when ready for the market is practically neutral and almost free from taste and odor. It is a "bland" oil. The edible olive oil is not refined but merely filtered after pressing from the olives, and therefore retains more of its characteristic taste.

There is even less difference in the behavior of the oils and fats in the body than there is in their composition. They are all practically completely digested, all give the same amount of fuel, and all slow up digestion in the stomach, so that a meal very rich in fat may stay a long time in the stomach and discomfort may result. Butter fat and oleomargarine made from beef fat do have one advantage over the others, for they alone contain an unknown substance necessary to the growth of the young and the normal health of the adult. This substance is present in milk, of course, as butter contains it, and also in leaf vegetables, so that if we have a reasonable amount of these in our diet there is no danger of our lacking it even though we eat no butter, but for those with a very limited diet, oleomargarine is probably really safer than nut margarin or the vegetable oils.

As to keeping qualities, the oils are possibly a little poorer than the solid fats but there need be very little difficulty if the oil is kept in the dark, in a closed vessel, and in a cool place. Cans are better containers than glass jars or bottles because they keep out the light.

Which of the various fats we use, therefore, is largely a question of habit. For frying, a variety has long been used. In our laboratories we have fried doughnuts in quick succession in half a dozen different fats, solid and liquid, and found that a preference for one or the other was more or less a matter of personal taste. One point to be considered is that the nearly neutral fats—such as cottonseed oil and its products—have a higher smoking temperature and are therefore more satisfactory to use than the others which may readily be heated up to their smoking temperatures. The amount of decomposition of the fat in frying has probably been exaggerated. The free acid in the fat is increased only very little, a few tenths of a per cent, even when the fat is heated above its smoking temperature. The much talked of acrolein with its irritating odor is probably formed but in such small quantity that it is difficult to get a positive test for it. We found, as have others, that it was important to have the fat hot enough to brown the dough thoroughly, else it soaked up more fat. However, even under favorable conditions, deep fat frying may use up an appalling amount of fat. Our doughnuts, good ones, were often 33 per cent fat. This, calculated for a good-sized one, is the equivalent of more than 1½ tablespoons for a single doughnut.[1]

For shortening, vegetable oils can often be well used. Oils for pastry making are more or less of a novelty to most people but again and again this past summer Miss Elizabeth W. Miller of our department has had delicious pie crusts made with cottonseed or corn oils. The crust was friable rather than flaky as with the solid fats, but was still tender. The oil itself "moistened" the flour so that the water had to be cut down, and then a satisfactory degree of richness was secured with one-third less of the oil than solid shortening.

In cake, too, Miss Miller has used the oils with entire success. In the richest (which we should not make at all now), a comparison of cakes made with butter and with oils showed a real difference in taste unless spices were used, but in the less rich only the person who had just trained herself could distinguish. We have compared gingerbread made with butter and with mutton fat, which has an especially strong flavor, and

[1] For an account of experiments upon which this statement is based see page 18.

could not tell which was which by any difference in taste but only by a difference in texture.

"The economy of substituting less expensive fats for those high priced luxuries can easily be seen," says a recent University of Illinois bulletin. "For example, one cup of mayonnaise dressing made of olive oil bought by the quart costs 27 cents, whereas if made of cottonseed oil, one cup costs $11\frac{1}{4}$ cents. Again, the substitution of one cup of oleomargarine for one cup of butter in a cake gave practically identical results and reduced the cost by $8\frac{1}{2}$ cents. Partial substitution of Crisco might profitably have reduced it still further."

Of course, much rich cake or pastry or frying is emphatically to be avoided, but these few suggestions are given to show that the fats we do use may be vegetable fats. These fats are harder to ship, and their production is the easiest to increase. We can use them and save animal fats and especially butter in cooking, with practically no hardship.

Bake, boil, and broil more—fry less.—*U. S. Food Administration.*

Tag-Your-Shovel Day is set for January 30. A tag will be provided not only for the coal shovel of every household in the country, including the White House, but for the shovels used in the public buildings, the National Capitol, State Capitols, and city halls. The school children are to do the distributing. "This tag should remind each man, woman, and child who uses a coal shovel that every shovelful of coal saved means just so much additional power and help and support for the American soldier and sailor on the firing line."

THE MARKETING CLUBS OF PITTSBURGH

ALMA Y. JOHNSON

It was in the early part of 1913, I believe, that Mrs. F. organized the marketing clubs of Pittsburgh and Allegheny County.

In all there were about 34 or 35 of them. Mrs. F. is a splendid organizer and aroused a great deal of enthusiasm among the women. We all thought we should be able to reduce the high cost of living very materially.

I was one of the first members of the Pittsburgh Marketing Club and represented it at the State Federation one year. I was a member of the Bellevue Marketing Club which had a membership of more than three hundred and was, perhaps, the biggest success of all. I was a member of the first Avalon club and president of the second one. I knew, personally, the presidents of several of the other clubs.

If there are any marketing clubs in existence today I do not know where they are. All, I think, have gone to pieces.

Many of them hung upon the success or failure of a curb market. These failed for two reasons. Few farmers were willing to sell their goods for less money on one street than they could get by driving around on several streets. They had their regular customers who would not come to the curb market, and it did not pay a farmer to lose his steady trade with these women. Then, too, the women found it inconvenient to stop their work and go out during the busiest time of the day, particularly if they had children.

The day of the universal market basket is past. Popular opinion to the contrary notwithstanding, it is not a matter of economy for every woman to go to market or to the grocery, herself. When she does go she sees so many things that she buys more than if she sent in an order over the telephone or by a boy. Then, too, she must stop her work, dress, and perhaps dress one or more children, go to the store, stand around half or three quarters of an hour, come home, redress herself and children and then pick up her work where she left off.

One of the biggest grocers in Pittsburgh says he would give a large sum of money to anyone who could persuade the women to come to his store in person, because they always buy more.

One marketing club failed because the chairman of the butter and egg committee, a very wealthy woman and prominent church worker, de-

cided to share in the profit and had part of the eggs sent to her home. From there she sold them to her friends at store prices.

One failed because the women who did the actual selling of the goods at the distributing center were obliged to do hard manual labor and to serve, without remuneration, not the other members of the club, but their servants who were sent to buy the goods.

One club gradually faded from existence until revived by the genius and enthusiasm of a new member. She did all the work, herself, all the buying and all the selling, keeping the goods, for the greater part of the time, in her own home. She served the club without pay and without thanks. When eggs were broken she used them and paid as much for them as the other women paid. She made a fruit cake one night after twelve o'clock because that was the only time she had, and the crate of eggs had come with two dozen broken. During this period the club was a great success.

But this woman had a long serious illness and when she returned to the club found that they owed more than eighty-five dollars over and above the worth of what was in the store. She went to work as never before until enough money was made to pay the debt and clear the name of the club. Then she quit. And the club was no more.

The Bellevue Marketing Club, owing to the genius of Mrs. H., was a great success. She had a store where all sorts of things were sold. One committee bought butter, eggs, and cheese. One bought groceries, one poultry and country meats. The store did a business of from three to four thousand dollars a year.

When Mrs. H. refused another reëlection the club began to go back. This store required the same amount of personal attention and business ability that any store needs to be a success. The new president had not the time, enthusiasm, nor genius of Mrs. H. Moreover, the women were tired of giving the time and labor required for success, without receiving any return, even in the form of gratitude.

Finally the store was closed. The president refused a reëlection, no one could be found to accept the presidency and the club formally disbanded in June, 1916.

There were several reasons for the discontinuance of these clubs in addition to those I have mentioned. Wholesalers as a class refused to sell to us; we could not purchase anywhere as a grocer can, but were compelled to restrict our buying to a few firms. Women do not like to carry home heavy baskets and packages and should not be compelled

to carry such things very far. And groceries are heavy. Many women must buy where they can charge the goods because their husbands either cannot or will not give them cash in their purses; and many believe that when they do have cash to spend it is their duty to spend it in the store of the merchant who has extended credit to them in times past.

We did, undoubtedly, buy goods much cheaper at the marketing club store, but it was because we carried home heavy baskets, paid cash, and because many women did hard work for which they were not paid, the president the most of all.

Although the clubs disbanded they were not a failure, particularly in Bellevue. The women learned that they can get more and ought to get more for cash and that delivery costs the consumer just what it costs the dealer.

At the earnest request of club members, R. and H., a grocery firm of Bellevue changed their plan of doing business and now sell only for cash. This store now makes two deliveries a day, only, in a restricted area, and two deliveries a week anywhere else. They make no special deliveries at all. They have cut out three unlimited telephones. They used to call three to four hundred people every day. Now the women call them. They have also discharged four solicitors at $18 to $20 per week each. Those who do not telephone come to the store. They used to deliver three-fourths of all goods bought, now they deliver less than one-third. And they are doing 30 per cent more business.

The customers save at least 12 per cent on their purchases. Mr. H. says 12 per cent is a very conservative estimate.

All are pleased. Neither the women nor the grocers would willingly go back to the old credit system.

So the educational value was, after all, the greatest result of the marketing clubs.

LOYALTY

If put to the pinch, an ounce of loyalty is worth a pound of cleverness.—*Business Men's Calendar.*

DO YOU KNOW CORN MEAL?[1]

Its use means service to your country, nourishing food for you.

Try corn bread and see how good it can be. There are many kinds. You will wonder why you didn't use it every day before the war.

It is very nourishing, too. A cup of corn meal gives even more fuel to your body than a cup of wheat flour.

Here is a quick kind of corn bread. Our grandmothers used to bake it on a board before the open fire. You can bake it in your oven.

Corn Dodger

2 cups corn meal
1 teaspoon salt
2 teaspoons fat
1¾ cups boiling water

Pour the boiling water over the other materials. Beat well. When cool, form into thin cakes and bake thirty minutes in a hot oven. Makes 14 biscuits. These crisp little biscuits are good with butter or gravy. Eat them with your meat and vegetables.

Corn Saved Our Pioneers

CORN AS BREAD

Corn bread is especially good made with sour milk and soda; but sweet milk and baking powder are satisfactory. Eggs improve the flavor and add to the food value, but may be omitted if too expensive.

Corn Bread

(1)	(2)
2 cups corn meal	2 cups corn meal
2 cups sweet milk (whole or skim)	2 cups sour milk
4 teaspoons baking powder	1 teaspoon soda
1 tablespoon sugar	1 tablespoon sugar
2 tablespoons fat	2 tablespoons fat
1 teaspoon salt	1 teaspoon salt
1 egg (may be omitted)	1 egg (may be omitted)

Mix dry ingredients. Add milk, well-beaten egg, and melted fat. Beat well. Bake in shallow pan for about 30 minutes.

[1] One of a series of leaflets issued by the United States Department of Agriculture and the United States Food Administration. They may be obtained from the Department of Agriculture.

AN OLD SOUTHERN RECIPE

Here is an old-fashioned soft spoon bread that Southerners like. With milk or sirup it makes a satisfying meal.

Spoon Bread

2 cups water
1 cup milk (whole or skim)
1 cup corn meal
1 tablespoon fat
2 eggs
2 teaspoons salt

Mix water and corn meal and bring to the boiling point and cook five minutes. Beat eggs well and add with other materials to the mush. Beat well and bake in a well-greased pan for twenty-five minutes in a hot oven. Serve from the same dish with a spoon. Enough for six.

CORN MEAL AND MILK

Do you use corn-meal mush for a breakfast food? It is both cheap and good. Cooked in skim milk instead of water it is extra fine and the food value of the dish is nearly doubled.

Here is a delicious corn meal and milk dessert.

Indian Pudding

4 cups milk (whole or skim)
½ cup cornmeal
¾ teaspoon salt
1 teaspoon ginger
½ cup molasses

Cook milk and meal in a double boiler twenty minutes; add molasses, salt, and ginger. Pour into buttered pudding dish and bake two hours in a slow oven, or use your fireless cooker. Serve with milk. This makes a good and nourishing dessert. Serves six.

CORN MEAL AND MEAT

Corn meal is good combined with meats. Such a dish is a meal in itself. Try this one.

Tamale Pie

2 cups corn meal
6 cups water
1 tablespoon fat
1 onion
2 cups tomatoes
1 pound hamburger steak

Make a mush by stirring the corn meal and 1½ teaspoons salt into boiling water. Cook forty-five minutes. Brown onion in fat, add hamburger and stir until red color disappears. Add salt, pepper, and

tomato. A sweet pepper is an addition. Grease baking dish, put in layer of corn-meal mush, add seasoned meat, and cover with mush. Bake one-half hour. Serves six.

Corn Helps Us Feed the World

The more we use the more food can be sent abroad. You need not tire of it, as there are at least fifty ways to use corn meal to make good dishes for dinner, supper, lunch, or breakfast. Here are some suggestions:

Hot Breads	*Desserts*	*Hearty Dishes*
Boston brown bread	Corn-meal molasses cake	Corn-meal croquettes
Hoecake	Apple corn bread	Corn-meal fish balls
Muffins	Dumplings	Meat and cornmeal dumplings
Biscuits	Gingerbread	Italian polenta
Griddle cakes	Fruit gems	Tamales.
Waffles.		

The recipes are in Farmers' Bulletin 565, "Corn Meal as a Food and Ways of using It," free from the Department of Agriculture.

A NEW RULE FOR CORNMEAL GINGERBREAD

1 cup cornmeal
1 cup flour
½ teaspoon soda
2 teaspoons baking powder
¾ teaspoon salt
2 teaspoons ginger
1 teaspoon cinnamon
½ teaspoon cloves
1 cup sour milk
1 cup molasses
2 tablespoons melted shortening

Sift together the dry ingredients; mix thoroughly with the milk, molasses, and shortening,. Bake half an hour in a moderate oven.

Two cups of buckwheat flour may be substituted for the cornmeal and flour in this recipe. This will have the characteristic flavor of buckwheat. If it is too strong, use only 1 cup of buckwheat and 1⅛ cups of white flour. Two and a half cups of rye, or 2½ cups of a mixture of rye and white flour might be used. In using rye and white flour a larger quantity is necessary because these flours absorb less liquid than do the cornmeal and buckwheat.

STUDENT CONTRIBUTIONS

AN ANALYTICAL STUDY OF SOME VARIETIES OF WHITE GOODS

MARTHA FARNUM

Under the direction of Ruth O'Brien

Textile Chemistry Laboratories, Iowa State College

Since this is a time when the welfare of our country depends so largely on the wise and judicious expenditure of money, it is extremely necessary that we should know as much as possible concerning the value of every article that we buy. This study was made in the hope of learning something more definite about the comparative intrinsic worth of variously priced domestics, and of assisting the woman who so often wonders if it is "just as well" to buy 15 cent as 17 cent muslin, or muslin instead of cambric. Such problems frequently arise and are usually solved by the psychology of the moment without the help of any real information. In fact, there are so few scientific or popular publications on cloth analysis accessible to the housewife that such information is very hard for her to obtain.

Moreover, the methods of determining the value of textile materials are not as yet very well worked out. There is no standardized method of testing them for their wearing qualities and we are forced to use such tests as breaking strength, yarn number, thread count. Of the three, breaking strength comes the nearest to estimating the durability of the material but this result only gives the tearing strength, and, as we do not often tear our clothes outright, it is very inadequate. If there were a standardized abrasive machine by which we could measure the resistance offered to constant wear we would be able to come nearer learning the true wearing qualities. Attempts have been made to perfect such a machine in this and other laboratories but no definite results have been obtained as yet. In this study we limited ourselves to the factors which seemed the most important from the housewife's standpoint, namely, breaking strength, thread count, and shrinkage.

EXPERIMENTAL

In performing the tests for breaking strength, the method prescribed by the Bureau of Standards was used.[1] Test pieces were cut 8 inches long by $1\frac{1}{4}$ inches wide and threads were drawn from each side until the standard width of one inch was obtained. They were then subjected to a temperature of 105°C. for two hours and the breaking strength recorded within thirty seconds. The machine used for this was an automatic cloth tester which pulled at the rate of 12 inches per minute. This method is known in textile laboratories as the strip method and seems to have met with the approval of more experimenters than the so-called grab method. The chief objection to its use is that there are usually a number of yarns which remain unbroken. These have a slight but direct effect on the reading obtained and warrant corrections.[2] However, at the present time, such corrections are available only for duck material and the uncorrected textile strengths are always reported.[3]

For the determination of shrinkage two different methods were carried out. The first consisted of marking the pieces of material into sections about 30 by 50 cm. These were then accurately measured, immersed in boiling water, allowed to remain over night, hung up without wringing, ironed when dry, and the shrinkage determined.[4] This method is advocated by many analytical laboratories. The same kind of material was also shrunk in the following manner. The pieces used were full width strips about 18 inches long. They were measured accurately and allowed to remain for one hour in water which, although boiling when they were first immersed, gradually cooled down to room temperature. They were then dried, ironed, remeasured, and the shrinkage calculated. This method is one often resorted to by housewives and was used for comparison. The thread count was made according to the directions given by the Bureau of Standards[1] using a typical thread counting instrument.

The materials used were purchased in February, 1917, at a retail store in a typical medium-sized Iowa town. These particular ones were chosen because their prices represented the purchasing possibilities of the average woman.

[1] Bureau of Standards, Bulletin 41, p. 15.
[2] Proceedings of the American Society for Testing Materials, vol. 16, p. 370.
[3] Proceedings of the American Society for Testing Materials, vol. 16, p. 383.
[4] Technical Testing of Yarns and Textile Fabrics, J. Herzefeld, p. 143.

From Table I it will be seen that with an increase in price there was not always corresponding increase in breaking strength, and when the price reached eighteen to twenty cents the strength had reached the maximum. For example: The weft way of eighteen cent cambric averaged higher than that of twenty cent cambric, whereas the warp remained practically constant; the warp of fifteen cent long cloth excelled the warp of twenty-five cent cloth while the results are just the opposite for the weft. Fourteen cent muslin and eighteen cent muslin were very nearly the same. Taking materials of the same price, the warp of the ten cent domestics averaged nearly the same while the wefts are quite different; fifteen cent nainsook was much lower than fifteen cent cambric; also twenty-five cent nainsook was lower than the twenty-five cent cambric.

TABLE I

Tensile strength table (number of pounds)

Less expensive materials

	10 CENT		10 CENT		12½ CENT		14 CENT	
	Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft
Cambrics								
Longcloth			27	19				
Muslins, bleached			28.4	14.3	29.2	21.7	34.2	21.4
Muslins(poor quality unbleached)	30.2	14.5	28.5	24.9	33.4	20	29.2	21.4
Nainsooks								

More expensive materials

	15 CENT		18 CENT		20 CENT		25 CENT	
	Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft
Cambrics	27.9	14.6	31.7	21.8	31.6	15.5	37	32.8
Longcloth	30.1	22.7					27.5	28.1
Muslins, bleached			33.1	21.2				
Muslins, unbleached			42.6	44.9				
Nainsooks	20.6	13.2			27.6	11.1	25.1	14.8

These figures are the averages of ten good breaks made upon strips cut lengthwise of the material (warp) and ten good breaks made upon strips cut crosswise of the material (weft).

In the determination of shrinkage (Table II) it was found that there was less shrinkage (in most cases) in the materials which were allowed to stand over night in water than in those which stood in the water only one hour. There was less shrinkage in the bleached than in the unbleached muslin, and of the cheaper grades the twelve and one-half cent muslin had the least shrinkage. However, all the shrinkage values were

TABLE II

Shrinkage expressed in per cent

Less expensive material

		10 CENT		10 CENT		12½ CENT		14½ CENT	
		Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft
Cambrics	1 hour in water								
	All night in water								
Longcloth	1 hour in water			3.2	1.9				
	All night in water			2.1	2.3				
Muslins, bleached	1 hour in water			1.9	1.8	2.5	1.2	2.5	1.6
	All night in water			1.7	0	2.0	0.3	1.4	1.7
Muslins, unbleached	1 hour in water, poor quality	6.2	3.3	3.8	3.1	4.4	2.7	3.7	4.5
	All night in water	4.8	2.7	2.2	3.0	3.8	3.4	2.0	3.6
Nainsooks	1 hour in water								
	All night in water								

More expensive material

		15 CENT		18 CENT		20 CENT		25 CENT	
		Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft
Cambrics	1 hour in water	2.6	1.6	2.6	3.1	2.7	1.9	2.6	0.4
	All night in water	1.7	1.2	1.8	2.6	1.6	2.4	1.7	0
Longcloth	1 hour in water	2.2	1.8					1.7	2.6
	All night in water	1.7	2.5					1.0	1.3
Muslins bleached	1 hour in water			2.5	2.4				
	All night in water			2.7	2.5				
Muslins, unbleached	1 hour in water			5.3	4.3				
	All night in water			4.8	4.4				
Nainsooks	1 hour in water	2.0	3.9			2.6	2.0	1.5	0.8
	All night in water	1.2	1.6			1.9	0.8	1.2	0.4

large enough to warrant consideration in the making of underwear and articles for household use. For example: according to these figures an ordinary skirt band would shrink ½ to 1 inch, and skirts 35 to 40 inches in length would shrink 1 to 1½ inches. From the table it will be noted that there was generally less shrinkage and consequently less necessity of allowing for shrinkage in such cases.

The thread count (Table III) in most cases increased with an increase in price. These results compare rather favorably with the breaking strengths, but less so with shrinkage except in the case of the twenty-five cent grades.

TABLE III

Variation in thread count (per inch)

Less expensive materials

		10 CENT		10 CENT		12½ CENT		14 CENT	
		Ends	Picks	Ends	Picks	Ends	Picks	Ends	Picks
Cambric	before washing								
	after washing								
Longcloth	before washing			68	56				
	after washing			70	56				
Muslins bleached	before washing			68	57	76	70	81	81
	after washing			69	60	78	71	83	79
Muslins, poor quality unbleached	before washing	49	39	48	50	52	43	49	53
	after washing	50	42	49	52	53	50	50	4
Nainsooks	before washing								
	after washing								

More expensive materials

		15 CENT		18 CENT		20 CENT		25 CENT	
		Ends	Picks	Ends	Picks	Ends	Picks	Ends	Picks
Cambric	before washing	72	66	79	73	102	89	105	96
	after washing	74	69	81	74	107	92	106	98
Longcloth	before washing	76	74					100	116
	after washing	80	76					103	119
Muslins bleached	before washing			85	76				
	after washing			86	77				
Muslins unbleached	before washing			44	48				
	after washing			47	51				
Nainsooks	before washing	71	72			84	72	94	79
	after washing	75	75			87	75	94	80

"Ends" refer to the warp yarns and "picks" to the weft yarns.

SUMMARY

With an increase in price, then, there is not always an increase in breaking strength. In several cases (as in nainsooks, bleached muslins, and cambrics) the medium grades compare favorably with the higher grades and sometimes surpass the higher grades in tensile strength. From this we may conclude that in most cases it is advisable to buy a medium grade.

The increase in shrinkage in the materials which stood only one hour in water over those which stood over night in water may be due to the fact that when the yarns are first contracted by the hot water in one case they have less time to relax back into their normal condition than they do in the other. But since this did not occur in all cases we are not prepared as yet to establish the theory that cloth which remains a long time in water shrinks less than that which remains in water only a short time. Further investigation on the subject would be necessary.

A REQUEST FROM THE BUDGET COMMITTEE

A revised edition of Thrift By Household Accounting, 2000 copies of which have been sold, will shortly be published. The Budget Committee invites criticisms and comments on the present edition. Suggestions are desired as to how the introductory discussion on the keeping of accounts can be made more useful; also as to the account forms themselves. There is also a question as to whether the book would be more useful if it included the accounts for a longer period than three months, as at present.

Suggestions with regard to these, or other aspects of the Thrift Book are invited and should be sent to the Budget Committee, American Home Economics Association, 1211 Cathedral St., Baltimore.

EDITORIAL

Ruskin's phrase, "the economy of your great grand-mothers and the science of modern chemists" might be transposed in these days of war. Often it is the chemist's discoveries that teach us thrift, and over and over again we find that the "glorified common-sense," which is one definition of science, was a characteristic of our great grand-mothers.

Women of many generations ago found out by experiment that the scalding of the vinegar or the syrup and pouring it hot over the pickle or preserves for three days in succession insured these products against ferments and molds. Only a few days ago a leading worker in agriculture told of watching his grandmother save and dry orange peel that she might have it to "make the jelly jell;" he had remembered it but never saw the reason until he was looking over some of his wife's home economics books.

The suggestion reported by Miss Stanley[1], of a 30 per cent starch paste "to take the place of the elastic gluten of wheat" is another instance where the "findings" of modern chemists merely verify the "doings" of the grandmothers.

Before the days of patent spring wheat flours or of the compressed yeast—which means before the Centennial Exposition at Philadelphia in 1876—it was a common habit of the best bread makers to scald a portion of the flour for making the yeast or "light" bread.

Sometimes this was the method; half a cup or more of the flour was scalded at noon, and when luke-warm a portion of dried yeast cake rolled or pounded fine was stirred through the starchy paste; by night this had become a lively yeast and was enough to start dough for two or more loaves of bread. This same plan is followed, is it not, when the rolled oats have scalding milk poured over them, or the corn meal is scalded when it is used in a white loaf?

Another way of getting at the same end was probably accomplished when the homemade potato yeast was used. This might be made from cooked potatoes, but more often they were grated, and boiling water poured over them at once, thus forming a stiff paste. To this when cool the cupful of yeast reserved from a similar lot was added with salt and

[1] See Jour. H. E., December, 1917, p. 537.

sugar and left to rise till foamy. Often a little ginger was put in; perhaps it had been found to retard undesirable ferments.

All these and many similar incidents seem to justify the old man whose neighbor twitted him saying, "Now your boy has come from college I suppose he is telling you lots that you don't know." To this the reply came, "No, he is only telling me the things I know, in words that I don't understand." Yet eventually he might explain many of the things done, as well as modify many of the processes.

In these days of stress our aim should be to gather together every scrap of inherited wisdom from the past and put it in words that he who "runs may read" and understand and do.

If the trumpet give an uncertain sound who shall prepare himself for war? So also ye unless ye utter by the tongue speech easy to be understood, how shall it be known what is spoken—for ye will be speaking into the air.

How shall he that filleth the place of the unlearned say Amen at thy giving of thanks, seeing he knoweth not what thou sayest; for thou verily givest thanks well but the other is not edified.

I had rather speak five words with my understanding that I might instruct others also, than ten thousand words in an unknown tongue.—*St. Paul.*

ANNA BARROWS.

COMMENT AND DISCUSSION

To the Journal of Home Economics:

The article by Miss Ravenhill on the Scope of Home Economics gives workers in that line food for much thought.

It appears to the writer that Miss Ravenhill does not realize how far the world's living habits are behind the knowledge it possesses in many lines.

Many of the faults she attributes to home economics should, it appears, be charged to the Public Health Association. It is to be remembered that that association has celebrated its fiftieth anniversary, while Home economics can not as yet be said to have been at all generally taught for even half that time. While saying this I remember that three state

institutions started work between 1870–1874, and also that the Home Economics Association was organized in 1908.

One other point of difference with Miss Ravenhill is with her measuring unit. Hygiene is not the lens through which most home economics workers "focus all learning upon the advancement of life." That may be the best means of approach to home economics in England, but it is not in the United States. The department of public health unfortunately is among the last to be organized in many of our colleges.

Here too it seems to me Miss Ravenhill shows some lack of appreciation of the machinery of education as it exists in the United States.

No one department can claim for itself the whole field of knowledge. In actual practice, the work as outlined by Miss Ravenhill is conducted by at least four departments in most of the colleges.

These seem to me the points in the article which are to be accounted for by the fact that Miss Ravenhill writes from the view-point of an English woman not entirely familiar with the development of home economics in the United States.

The letter from Vice President Kinley is such an admirable statement of constructive criticism that I have nothing to add.

ISABEL BEVIER.

Professor Isabel Bevier:

I am returning the JOURNAL OF HOME ECONOMICS, which contains Miss Ravenhill's article. With much that she says I am in agreement. We cannot get on without such articles. They make for progress. I tell my own class that we must never be too hard on the satirist, the critic, or even the kind of antagonist who attains his heaven of elation by merely throwing bricks; for whatever else they do, they compel us constantly to review our own scientific judgments.

I agree with Miss Ravenhill's general criticism of our undergraduate college courses; for what she says about the character of the undergraduate work in home economics is true, now, of pretty nearly all our undergraduate programs of study. I may be wrong, but for a long time I have felt that this evil is a result of the effort to force into our educational system German methods and standards. We have forced the methods of the graduate student into our undergraduate curriculum. We have formed curricula that are intensely specialized. We have largely and in some cases utterly forgotten that the main purpose of education, at any rate in the first two, and possibly the first three, years of our college

courses is training for life and not for callings. In nearly all cases that have come under my observation it is true that departments and teachers present their subjects as if they had no relation to any other subjects in the universe. That, to my mind, is the principal defect of our present educational system from top to bottom. There is no coördinating force. The criticism, therefore, applied with more or less justice by Miss Ravenhill to home economics, is equally applicable in all our departments of study.

In the second place, however, I think that Miss Ravenhill misses, or fails to give due emphasis to one very important fact which, more than all others, accounts for the alleged lack of influence on the improvement of life through the efforts of graduates in home economics. Aside from the fact that they are relatively few, aside from the fact that any such improvement requires generations and not years to permeate the life of a people, she forgets, as we all constantly forget, that, after all, most of the work that we are doing in college and university does not reach directly into the homes of the great masses of the people.

Her elaborate scheme of organization is fine on paper, but the multitudes of fathers and mothers with families of two to seven in four and six room houses, and with incomes of perhaps $15 to $20 a week, have no time or means for such coördination and practices, even if they knew about them.

Aside from this, of course, we could easily find what to us are technical defects in Miss Ravenhill's scheme. It is, after all, a somewhat stilted, *a priori* organization. We cannot so differentiate functions in life.

This article, with all its points of excellence is, like, many others, another illustration of the fact that the world has been unable for a generation or more to set and adhere to educational standards. The feeling of unrest and change is everywhere, in many cases without adequate reason. Moreover, the article is another illustration of the use of words which conceal knowledge. I sometimes think that all our departments—shall I say science?—are in danger of becoming what some think "sociology" and others think "education" is—sciences which tell what everybody knows in language that nobody understands. In this connection, by the way, I sometimes have wondered whether there was a household *science* rather than an *art* of the application of science to household affairs.

D. KINLEY.

University of Illinois.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Food Poisoning. By EDWARD OAKES JORDAN. Chicago: University of Chicago Press, 1917, p. 115. $1.00. By mail of the Journal, $1.05.

Professor Jordan's book will prove a valuable one for students and teachers of home economics in colleges. His classification of forms of food poisoning give a comprehensive view of the subject. The references both to case histories and to semi-popular literature are of such a nature that they can be used freely by students of the upper classes. As one would expect, the book is throughout marked by accuracy, caution in avoiding sweeping generalizations, and by great good sense. The general view of the sources of infection as given in Chapter V is especially useful as is the discussion of paratyphoid and of botulism. As is generally the case with a brief comprehensive discussion of this sort, the reader wishes for more information on some points: for example, the symptoms of lead poisoning, the amount of heating necessary to destroy some of the organisms, a discussion of sprue; but the book will be widely welcomed as a very valuable and usable source of information.

RUTH WHEELER,
University of Illinois.

Basic Quantity Food Tables. To be used in determining the daily issue of food to the kitchen. Prepared for the use of institutions by the Department of Public Charities, City of New York, July, 1917. For sale by Municipal Reference Library, New York City. $1.25.

These food tables, which are for the quick determination of the quantity of food necessary for a given number of persons are arranged in nine different dietaries for officers and staff, nurses, employees, tubercular patients, feeble minded children, lodgers, industrial workers, and hospital patients.

The tables state the quantities of different kinds of food necessary for groups of 100 or 200 to 250 and more, according to the numbers involved in New York City Institutions. The quantities are for a 28-day month with the number of times in this period each food appears in the dietary. The daily per capita allowance for each person is given as well as its multiples for 2, 3, 4, 5, and multiples of 5 up to a maximum for 100 or 200 or more persons.

The tables are edited by Henry C. Wright, Deputy Commissioner of the Department of Charities, and are based on tables worked out by Mr. Charles S. Pitcher, of the Kings Park State Hospital. They will be extremely valuable, both to the practicing institution director and to those in charge of training dietitians.

Lessons in Food Values and Economical Menus. Arranged by ALICE BRADLEY of Miss Farmer's School of Cookery, 30 Huntington Avenue, Boston, Mass., 1917, pp. 29. $.25.

Meals for Five on $6 a Week. By JOSEPHINE L. BESSEMS. Elgin, Ill.: David C. Cook Publishing Company, 1916, pp. 28. $.25.

Kitchenette Cookery. By ANNA MERRITT EAST. Boston: Little, Brown and Company, 1917, pp. 112. $1.00.

The small pamphlet entitled Food Values and Economical Menus was first arranged for classes in Canteen Cookery from the

Massachusetts Branch of the Special Aid Society for American Preparedness but the fact that it reached a third printing within two months shows that it meets a much wider need. It will be admirably suited for the individual housekeeper or for those groups who will be gathered next year for study of the problem of food supply.

A short discussion of the function of foods and the requirement of the individual is followed by a table of one hundred calorie portions with suggestions as to the choice of a day's diet. The body's need for protein is explained and provided for and the ash constituents and accessory substances are not forgotten. Six days' menus are given, accompanied by recipes and food values, with suggestions for various economies and substitutions.

At the end there are given dietaries for children and rations for soldiers with the directions for building a fireless cooker and for cold pack canning. The thirty pages of the pamphlet are full of most valuable material.

In contrast with the little pamphlet above, is the one, entitled "Meals for Five on Six Dollars a Week," which seems padded and full of platitudes. The discussion of food requirements is limited to requirements for fuel and repair with a slight mention of mineral salts and nothing of accessory substances. The chapters on marketing and food economies contain many generalities but little material which is new or of much importance. Instead of a grouping of foods which will provide for an adequate diet in an elastic fashion, there are two sets of meals, one for summer and one for winter, which are given as scientifically and accurately balanced. The recipes given in the last chapter are those which are found in any cook book so that there seems no need for repeating them.

There is a new and rapidly increasing group of housekeepers whose needs are not met by the usual cook book or household guide. These are the independent women who "love to cook what they eat rather than sit forever around a boarding house table," and have therefore made homes for themselves even when confined to one room. For these women, "Kitchenette Cookery," will prove a boon indeed. This is an exceedingly practical and helpful little book which shows that it is the product of personal experience.

The first part is taken up with advice as to the arrangement and equipment of working space. The plans given are for a kitchenette seven and one-half by two and one-quarter but they could be adapted to many other situations. Each need is provided for with little expenditure of money but much of thought and ingenuity. Along with the descriptions there are many hints as to methods of work so that the reader is instructed unconsciously as to proper storage of food, and other details. In choosing utensils, emphasis is put upon suitability and efficiency rather than expense, and the aluminum roaster and pressure cooker are made to justify themselves by the many purposes they serve. A price list of the equipment is given in another chapter.

A chapter is devoted to marketing with particular attention to the needs of a shopper whose time is limited. There are many helpful hints as to amounts and methods as well as a short discussion of food values.

The last part of the book is devoted to a description of typical meals such as breakfast, luncheon, company dinner. The routine of preparation and the recipes for the several dishes are given in such a way that an amateur could achieve a successful meal with their aid. The use made of the pressure cooker is especially interesting, and a chapter is given to meals prepared with its aid. Another chapter is devoted to the economical utilization of the ordinary sized can of vegetables or fruit which leaves a half a can to be disposed of in some way.

FRANCES SWAIN,
Chicago Normal College.

War Food. By AMY L. HANDY. Boston: Houghton Mifflin Company, 1917, pp. 76. $.75. By mail of the Journal, $.79.

This book contains directions for drying

fruits and vegetables and for canning by the cold-pack method.

Most of the material in the book is similar to that found in Farmers' Bulletins 839 and 841. In the directions for canning, the time for processing the vegetables is in many cases less than that given in Bulletin 839. Since experience has shown that the sterilization of some vegetables is very difficult, a reduction in the time of processing cannot be recommended.

ELIZABETH W. MILLER
University of Chicago.

War Economy in Food. Washington, D. C.: The U. S. Food Administration.

This pamphlet contains suggestions and recipes for substitutions in the planning of meals. It is available for general distribution through the Food Administrator of each state.

The Book of Corn Cookery. MARY L. WADE. Chicago: A. C. McClurg & Co., 1917, pp. 105.

The book consists chiefly of recipes gathered from many sources and different parts of the country. It deals with breads, cake, pones, mush, hominy and gruel, sweet corn and dishes made from it, and desserts and candies.

The book is put out in attractive form, and the recipes are practical and suggestive.

BIBLIOGRAPHY OF HOME ECONOMICS

PERIODICAL LITERATURE

FOODS AND COOKERY

Some Sugar Saving Sweets for Every Day. May B. Van Arsdale and Day Monroe, *Teachers College Record*, Nov. 1917.

Cereals We Ought to Eat. Mary S. Rose, *The Farmers' Wife*, Nov. 1917.

The Milk Pitcher in the Home. Mary S. Rose, *The Farmers' Wife*, Oct. 1917.

Edible Vegetable Oils. Glenn H. Picard, *Amer. Food Jour.*, Nov. and Dec., 1917.

Our Food and Our Bodies. Harry E. Barnard, *Nat. Food Magazine*, Aug. and Sept. 1917.

Shall Wasteless Meals be Tasteless? Sarah Hoffman, *Amer. Cookery*, Dec. 1917.

Our Daily Bread. Bruno Lasker, *Survey*, Oct. 20, 1917.

Laxative Food Preparations and their Composition. John Phillips Street, *Modern Hospital*, Dec. 1917.

The Pedigreed Cheeses of France. Blanche McManus, *Amer. Cookery*, Nov. 1917.

Food Economy in War Time. E. and L. Brewster, *Nat. Food Mag.*, Sept. 1917.

A Controlling Basis for the Economical Use of Supplies. H. J. Moss, *Modern Hospital*, Nov. 1917.

Differential between Packaged Foods and Foods in Bulk. W. T. Sherer, *Amer. Food. Jour.*, Nov. 1917.

The Truth about the Price of Meat. J. Ogden Armour, *Collier's* Sept. 1915.

The Cost of Marketing Eggs in 1917. Paul Mandeville, *Amer. Food Jour.*, Nov. 1917.

The Road to Economy. Eleanor Wilson, *Amer. Cookery*, Oct. 1917.

Reptiles as Food. Prof. A. M. Reese, *The Scientific Monthly*, Dec. 1917.

An Explanation of the Practical Side of Baking Powder Manufacture—Its Chemistry—Its Arithmetic. Jessie F. Caplin, *School Sci. and Math.*, Dec. 1917.

Beware of the Calorie. *Literary Digest*, Dec. 8, 1917.

The Story of Sugar. L. J. De Bekker, *The Outlook*, Dec. 5, 1917.
Digging at the Root of the Food Problem. *The Outlook*, Dec. 5, 1917.
Photography as a Food Saver. *Literary Digest*, Dec. 8, 1917.
Those First Cousins, Salads and Custard. *The House Beautiful*, Dec. 1917.

Nutrition

Oatmeal Gruel in Infant Feeding. A. Levinson, *Arch. Ped.* 34 (1917), No. 9. pp. 707–714.

The Importance of the Pre-School Period to the School Child. Julius Levy, *Arch. Ped.* 34 (1917), no. 11, pp. 837–845.

The Intradermal Reactions to Proteins of Infants Suffering from Gastroenteric Disorders. V. D. Greer, *Arch. Ped.* 34 (1917), no. 11, pp. 810–817.

Studies in Fractional Estimations of Stomach Contents. B. B. Crohn and J. Reiss, *Amer. Jour. Med. Sci.* 154 (1917), no. 6, pp. 857–873.

Etiological Factors of Acne Vulgaris. Albert Strickler, *Amer. Jour. Med. Sci.*, 154 (1917), no. 4, pp. 579–585.

The Action of Opium and Some of its Alkaloids on the Digestion Tract. D. I. Macht, *Amer. Jour. Med. Sci.*, 154 (1917), no. 6, pp. 874–883.

The Nutritive Value of Margarines and Butter Substitutes with Reference to their Content of the Fat-Soluble Accessory Growth Substance. W. D. Halliburton and J. C. Drummond, *Jour. Physiol.*, 51 (1917), nos. 4 and 5, pp. 235–251.

Feeding experiments with rats which show "that the only butter substitutes (amongst those examined) which can adequately replace butter are the margarines made of the so-called "oleo-oil" from beef-fat. Vegetable oil margarines and nut butters were the other fats used. "It would be truer economy even for the poor to purchase smaller quantities of oleo-oil margarine if they cannot afford the luxury of real butter."

The Energy Value of the Ordinary Diet of a Sedentary Worker with and without Alcohol. A. D. Waller, *Jour. Physiol.*, 51 (1917), nos. 4 and 5. pp. xiii–xiv.

Diet of Prisoners of War in Germany. Alonzo Taylor, *Jour. Amer. Med. Assn.*, 69 (1917), no. 19, pp. 1575–1582.

Botulism, the Danger of Poisoning from Vegetables Canned by the Cold Pack Method. Dickson, *Jour. Amer. Med. Assn.*, 69 (1917), p. 966.

Miscellaneous

Vocational Education in Indiana. W. F. Brook, *Educ. Admin. and Supervision*, Oct. 1917.

Practical Millinery. Madge Lamoreaux, *Indus. Arts. Magazine*, Oct. and Nov. 1917.

The Efficiency Home. Estelle P. Izor, *Indus. Arts. Magazine*, Dec. 1917.

A County Bureau of Information for Housewives. Katherine Glover, *Survey*, Oct. 20, 1917.

Social Welfare in Time of War and Disaster: a bibliography. Christine McBride and Susan Kingsbury, *Survey*, Oct. 27, and Dec. 8, 1917.

Community Service and Vocational Training. Parker B. Pratt, *Man. Tr. Magazine*, Nov. 1917.

Community Health on a National Scale. Louis I. Dublin, *Survey*, Nov. 17, 1917.

Correlation between Nursing and Social Work. Jessie L. Beard, *Amer. Jour. Nursing*, Oct. 1917.

The Care of Children in the Home. Laura Cole, *Amer. Jour. Nursing*, Oct. 1917.

Keeping Mothers and Babies Together. Elizabeth S. Walsh, *Survey*, Nov. 3, 1917.

Modern Methods of Water Purification. H. E. Barnard, *Amer. Food Jour.*, Oct. 1917.

The Effect of Atmospheric Conditions upon Fatigue and Efficiency. C.-E. A. Winslow, *Amer. Jour. Pub. Health*, 7 (1917) no. 10, pp. 827–834.

NEWS FROM THE FIELD

Annual Meeting, American Home Economics Association.—For several years the American Home Economics Association has held a meeting in connection with the Division of Superintendence of the N. E. A. This year there will be a more extended session that will serve as the annual meeting of the Association, continuing through Friday morning and afternoon and Saturday morning, March 1 and 2. There will be a meeting of the Council on Thursday evening. One general session of the Department of Superintendence is to be given to home economics, and Dean Arnold of Simmons College will make the address. It is hoped this will be on Thursday, February 28.

A brief business meeting of the Association, with the report of the president and other officers will be held on Friday morning, followed by a round table discussion that will be continued in the afternoon.

The Saturday morning meeting will be especially planned for the public school teacher, with the hope that there will be a large attendance from New York, New Jersey, and eastern Pennsylvania.

The general topics for the round table discussion will be:

I. What ought home economics teachers to teach the general public about food values and how shall we do it?

II. How does the Smith-Hughes Bill modify the work now being conducted in home economics? What changes and additions does it necessitate?

Miss Isabel Bevier is chairman of the program committee.

The meetings will probably be held at the Hotel Traymore.

The American Dietetic Association. The first national meeting of the American Dietetic Association was held at the Hollenden Hotel in Cleveland, Ohio, October 18 to 20. Representatives from twenty-one states and from Canada were present and not one moment during the entire meeting did interest lag. So many good papers were read and ably discussed that the attendance was more than one hundred people at each session—even the last one, a registration highly gratifying for the first attempt at organization.

Major C. F. Hoover, Chief of the Medical Staff of the Lakeside Hospital of Cleveland, Ohio, who had recently returned from France, gave a very practical opening and welcoming address on Thursday afternoon, speaking of the need and aims of the dietitian, and of her future prospects, giving also facts concerning food conservation, and in regard to war conditions in France.

Miss Lulu Graves, Dietitian of the Lakeside Hospital of Cleveland, as temporary chairman of the Conference, gave the reasons for assembling the dietitians and showed how by concerted action they may raise their standards and give their work a broader outlook.

A Round Table on Food Conservation was conducted by Miss Lenna Cooper of Battle Creek, Michigan. Before the end of this session it was necessary to provide larger quarters. In the evening Rev. Caroline Bartlett Crane, chairman of the Michigan Section of the Woman's Council of National Defense, told what the Woman's Council of National Defense is doing for this country and urged that all dietitians place their "expert knowledge and valuable experience" at the service of the woman's clubs, and all who need it; and also offer help to the training camps.

At the business meeting that followed, Miss Lenna Cooper was chosen as President pro tem and Miss Maude A. Perry as temporary Secretary, and a decision was made to form an organization to be known as The American Dietetic Association.

Friday morning, Dr. Ruth Wheeler of the University of Illinois, gave some results which she had obtained from experimentation on both animals and people at the University. Miss Sawyer of the University of Iowa read an excellent paper on acidosis, reporting observations taken on different children to show their susceptibility to acidos's. She showed by charts and figures the effects of anesthesia and starvation upon some children who develop acidosis after operation, and an interesting discussion on diabetic acidos's followed.

In the afternoon Miss Violet Ryley, General Organizing Dietitian of the Military Hospitals of Canada told what they are doing in the recuperative hospitals, and emphasized the importance of the position of the dietitian in these hospitals. A visit to the Cleveland City Hospital followed.

On Friday evening, a paper by Mr. John Willy of the Hotel Monthly, upon Hotel Management was read by Miss Mary Jones of Battle Creek, Mich., and Mr. Stuart, the manager of the Hollenden Hotel, opened the discussion and answered many questions on the subject.

Miss Louise Pollock, Dietitian of the City Hospital, St. Louis, Missouri, read a paper on "The Dietitian and Her Equipment." The value of several important and useful labor savers was discussed.

On Saturday morning, Dr. Lewis of the Battle Creek Sanitarium, gave a stereopticon lecture in which he showed charts and explained the value of laboratory reports to the dietitian. Scientific dietetics is an actuality and the practical physician of today realizes the need of the dietitian in the successful treatment of his patient after diagnosis has been made.

Miss Elva A. George, of the Red Cross Bureau of Instruction, Washington, D. C. read a paper telling the different phases of work open to the Red Cross Dietitian and Miss Ryley of Canada gave more details about her work in connection with the wounded soldiers.

In the afternoon, Miss Graves told of the work which is being done by "The Dietitian as the Doctor's Asssitant." This is a comparatively new field but a field full of opportunity for the person who is willing to do hard work and much of it. One who undertakes it has a bright future not only in hospital work but in field dietetics and as a consulting dietitian as well.

Miss Rena Eckman sent her paper,"The Standardization of Dietetics and the Training of the Dietitian" and it was read by Miss Phyllis Dykeman of Grant Hospital, Columbus, Ohio.

DOMESTIC SCIENCE ORGANIZER FOR NEW ZEALAND

The services of a highly qualified woman to act as organizer of Domestic Science work in Auckland, New Zealand, are required.

The salary offered is £300 per annum. If the successful applicant comes from beyond New Zealand, saloon passage will be paid to Auckland. Actual transit expenses of the organizer will be paid while she is engaged in her duties. The sum of £50 a year will be paid towards board and lodging expenses. The engagement is to be for a term of three years.

Applicants should have had considerable experience as teachers of Domestic Science, and have held positions requiring organization and the successful exercise of authority.

The duties of the organizer will be: (1) To take charge (under the Supervisor Manual Training and Technical Education) of the teaching of Domestic Science subjects in the Primary, District High, and Technical Schools of the Board; (2) To organize course of instruction in Domestic Science subjects; (3) To inspect and report upon all classes in Domestic Science subjects under the Board; (4) To assist in the training of Teachers of Domestic Science and to give model lessons for their benefit; (5) To hold special meetings for Mothers in the Country Districts for the object of obtaining their co-operation, so that the teaching of Domestic Science may be made as far-reaching as possible.

Forms of application and further information may be procured from Miss Alice Ravenhill, Professor of Home Economics, Utah Agricultural College, Logan, Utah. Applications must be returned in duplicate not later than January 31, 1918.